

## TELEVISION MODELS

V6 - 9D  
V6 - AM  
V6 - BJ  
V7 - AM  
V7 - BJ



# "HIS MASTER'S VOICE"

MANUFACTURED & DISTRIBUTED BY  
**E.M.I. (AUSTRALIA) LIMITED**  
(INCORPORATED IN N.S.W.)

**6 PARRAMATTA ROAD  
HOMEBUSH, N.S.W.**

## SPECIFICATIONS

### POWER SUPPLY:

240, 250 volts, A.C., 50 Hz.

### CONSUMPTION:

170 watts.

### AERIAL INPUT:

300 ohms balanced.

### INTERMEDIATE FREQUENCIES:

Vision Carrier: 36.875 MHz.

Sound Carrier: 31.375 MHz.

### FUSES:

V6 ..... Mains: 1.5 amp.

H.T.: 1.5 amp.

V7 ..... Mains: FS1, FS2—1.5 amp. each

H.T.: FS4—1.5 amp.

## VALVES AND SEMI-CONDUCTORS

V1	932-1161	6ES8—RF Amplifier	MR1	932-0971	0A90—Video Detector
V2	932-1921	6HG8—Frequency Changer	MR2	932-1071	0A210—HT Rectifier
V3	932-2331	6U9—1st IF Amplifier and Blanking Clamp	MR3	932-1071	0A210—HT Rectifier
V4	932-2341	6X9—2nd IF Amplifier and Noise Detector	MR4	932-2451	BA100—AGC Clamp
V5	932-2351	6Y9—Video Amplifier and A.G.C.	MR5	932-2081	AA119—Ratio Detector
V6	932-2411	6V9—Sync Separator	MR6	932-2081	AA119—Ratio Detector
V7	932-0521	6BX6—Limiter	MR7	932-2451	BA100—Vertical Sync Diode
V8	932-1771	6GW8—Audio Driver and Output	MR8		
V9	932-2001	6GV8—Vertical Oscillator and Output	MR9	932-2961	AB1122—Phase Discriminator
V10	932-2371	6JW8—Reactance Valve and Horizontal Oscillator	MR10	932-2961	AB1122—Phase Discriminator
V11	932-0531	6CM5—Horizontal Output	MR11 to MR14		Not used.
V12	932-0771	1S2—E.H.T. Rectifier	*MR15	932-2191	0A610—Rectifier (Remote Control)
V13	932-1151	6AL3—Damper Diode	*MR16	932-2191	0A610—Rectifier (Remote Control)
			*MR17	932-2031	0A91—Protection Diode

\* Used on V7 chassis only.

## CAUTION

The normal B+ voltages in these receivers are dangerous. Use extreme caution when servicing. The high voltage at the picture tube anode (17,000 volts) will give an unpleasant shock but does not supply enough current to give a fatal shock. However, secondary human reactions to otherwise harmless shocks have been known to cause injury.

Always discharge the picture tube anode to the chassis, or to its aquadag coating, before handling the tube. The picture tube is highly evacuated and, if broken, it may violently expel glass fragments. When handling the picture tube, always wear goggles.

## DISMANTLING

### V6 AND V7 CHASSIS

#### TO HINGE DOWN CHASSIS

1. Remove back by undoing 4 screws.
2. Swing chassis down.

#### TO REMOVE TUNER

- V6.** 1. Pull off front control knobs — Channel Selector, On/Off, Picture and Sound knobs.
2. Remove screw at right side of tuner.

Tuner may be hooked to left side of main chassis by dropping tongue on tuner bracket into special slot provided. Slide tuner forward and tighten self-tapping screw.

- V7.** 1. Pull off front control knobs — Channel Selector, On/Off, Picture and Sound knobs.

2. Remove two screws holding back fibre cover.
3. Slacken wing-nut under tuner chassis assembly.
4. Unscrew captive screw at top of tuner bracket and withdraw tuner assembly.

#### TO REMOVE CHASSIS AND TUNER

1. Swing chassis down and remove tuner.
2. Fix tuner to chassis.
3. Unplug yoke, picture tube, speaker and EHT leads.
4. Raise chassis to approximately 45° and withdraw from pivot brackets.

#### TO REMOVE PICTURE TUBE

1. Remove chassis and tuner.
2. Remove four screws holding picture tube and lift out.

## ADJUSTMENTS

**Mains Voltage.** Before leaving the factory, the mains input is set to the 240-volt tap on the transformer. A 250-volts tap is also provided for use when necessary. To make the alteration, withdraw the plug and fuse on the black lead from the holder marked "240V" on the rear of the mains transformer. Remove rubber bung from "250V" fuse holder and insert the fuse and plug in this position. Insert rubber bung into "240V" socket.

**Horizontal Hold.** This is set at the factory and normally should not need further adjustment. However, after a change of components, it may be necessary to re-adjust. The procedure is as follows:

1. Connect the cathodes (+) of the discriminator diodes MR9, MR10 together.
2. Set the horizontal hold control to mid-position (cathode potential of V10 triode =  $3\frac{1}{4}$ V.).
3. Adjust core of L33 for correct frequency.
4. Remove connection from discriminator diodes and short grid of sync amplifier, V6 triode, to earth.
5. Adjust discriminator balance control RV9 for correct oscillator frequency.
6. Remove short from sync separator.

**Contrast Range.** Set the "Contrast" control to the minimum contrast position. The "Picture" control should be rotated to give sufficient brightness on the screen to be able to observe a weak picture. Adjust the "Contrast Range" control so that the picture just disappears, after going out of lock. Advance the control until the picture re-appears and just locks.

**A.G.C.** The pre-set AGC control should be set, when necessary, to the weakest signal, i.e., that displaying the most "snow" or grey-to-white flecks in the picture. Adjust the control to the position which just reduces the snow to a minimum.

**Boost Voltage.** The boost voltage may be adjusted, where necessary, by means of the pre-set control adjacent to the horizontal output transformer. Access to this control is easier from the reverse side of the chassis, when it has been swung down.

Reduce the picture tube beam current to zero, by means of the "Picture" control. The voltage, measured across C114 (.047uF), should be adjusted to 510 volts, which assures optimum picture width and EHT voltage. Re-set the "Picture" control. **Note:** Do not use a meter protected with silicon diodes, as

this gives a rectifying effect and results in an incorrect reading.

**Focus.** The only time that focus adjustment may be necessary is after replacement of the picture tube. The focus potentiometer, which is a strip pre-set type, is located on the edge of the chassis and adjacent to the EHT rectifier socket and is accessible when the chassis is swung down. Adjust for optimum overall focus across the picture tube face.

**Linearity.** Before adjusting either vertical or horizontal linearity, the picture shift magnets should be neutralised. To do this, the two magnets should be rotated with respect to each other. The neutralised setting is such that, when the complete assembly is rotated, it has little effect on the picture position.

After adjustment has been made for best linearity, the picture may need to be re-centred. The linearity should be retouched where necessary.

**Vertical**—The vertical linearity pre-set potentiometer, RV8, should be adjusted in conjunction with the vertical height control, for best linearity, using a pattern on the screen.

**Horizontal**—The horizontal linearity coil is situated adjacent to the EHT rectifier, and may be adjusted from the side of the chassis.

The slug should be adjusted for best linearity, using a pattern on the screen. Two positions of the slug provide suitable conditions, but the position in which the slug is farthest out of the coil is the correct one.

**Picture Centring.** The picture may be centred by rotating the two shift magnets on the tube neck, behind the deflection yoke. Rotate the centring magnet assembly to shift the picture in the required direction, and move one of the magnets with respect to the other, to change the strength of the field, and so the amount of picture shift.

**Picture Tilt.** If the picture is not square with the edges of the mask, loosen the clamping ring on the deflection coils and rotate the assembly until the picture is squared up. Tighten the clamping ring and, if necessary, re-centre the picture.

#### SERVICE NOTE

These receivers have a number of regulating devices, such as voltage dependent resistors and diodes, which are designed to correct departures from mean operating conditions.

In fault-tracing, a certain amount of masking of the true cause occurs and defective parts or incorrect operation may be difficult to isolate.

Servicemen are therefore advised to consider carefully any substitution of components or diagnosis of faults, before making adjustments, and so avoid unnecessary complications in repairs.

#### REMOTE CONTROL (V7 CHASSIS ONLY)

When the main on-off switch is switched to "on", the -17V rail is immediately available but the main power supply for the receiver is only connected through contact B1 when relay B is energised. Either of two parallel switches connect the coil of relay B to the -17V rail. One is the on-off switch in the remote control handpiece, and the other is the mechanical switch MSA1 which closes when the remote control plug is removed from the socket at the rear of the receiver. The contacts MSA1, 2 and 3 allow for normal operation of the receiver when the remote control plug is removed.

Two identical transformers have sufficient taps to provide a different voltage output for each channel. These voltages are selected by switches, one mounted on the rear of the tuner, and the other in the handpiece. The channel position of the tuner causes the appropriate voltage to be applied to the base of the transistor AX1104. The voltage selected by the switch in the handpiece is applied to the emitter, and if these two voltages are the same, there is no current flow in the transistor. If they are different, earthing the emitter circuit with the start button allows current to flow, energising the motor control relay RLA. The emitter remains earthed by a contact A2, and the motor continues to rotate until the base voltage selected by the tuner position is equal to the emitter voltage selected in the handpiece, when current ceases to flow in the transistor, and the relay opens. The motor driver contact MSB by-passes the transistor until the instant the motor is required to stop. At this instant the contacts open and relay current is either maintained by transistor current, or ceases. Whilst the motor is operating other relay A contacts, remove picture (contact A4) and mute the sound (A3).

Volume of the receiver may be adjusted at the remote handpiece for both local and remote speakers by variation of the sound limiter HT using the remote volume control.

Two sockets are available on the side of the remote handpiece for hearing-aid plugs. Insertion of the hearing-aid plug into SKT4 with the "local-remote" speaker switch in the remote position, removes sound from the speaker and supplies sound to the hearing-aid only. If SKT5 is used, sound is supplied to the hearing-aid and the remote speaker. A separate volume control is provided for hearing-aid adjustment; however, no hearing-aid sound will be available if the main or remote speaker volume control is turned to minimum position.

Hearing-aid sound, operating with separate control of volume, is available either with remote control or local speakers.

For the remote controls to be fully effective, the receiver sound and picture controls should

be well-advanced. If these controls are so set, removal of the remote control plug PL3 will not disturb the contrast or sound when

the receiver is operating normally. All adjustments may then be made at the receiver.

## SOUND I.F. ALIGNMENT

The following equipment is necessary:

- (i) An RF Oscillator, capable of being set accurately to 5.5 MHz.
- (ii) A 20,000 ohms/volt multimeter.
- (iii) A peak-to-peak detector, as shown in Fig. 1.

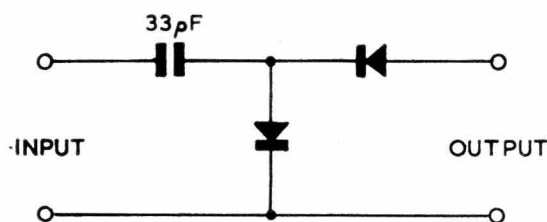


Fig. 1.—Peak-to-Peak Detector.

### 5.5 MHz TRAP (IFT3)

IFT3 is a combined 5.5 MHz null trap and sound take-off transformer. This is set at the factory and normally should not need further adjustment.

Should it be necessary to re-tune IFT3, the following method is recommended.

- (1) Inject 5.5 MHz at approximately 100

mV, between the junction of L29 and MR1, and earth.

- (2) Connect the input of the peak-to-peak detector to the CRT cathode, pin 7. Connect the output of the peak-to-peak detector to a multimeter, set to a low DC voltage range.
- (3) Remove both cores from former. Screw in primary core (furthest from chassis) to give a minimum reading.
- (4) Screw in secondary core until meter reading rises slightly, and then adjust primary core until a new minimum is obtained.
- (5) Repeat adjustment of primary and secondary until meter reads zero.

### RATIO DETECTOR TRANSFORMER (IFT4)

Connect the 5.5 MHz oscillator as in (1) above. Connect the multimeter between the junction of R72 and R73 and earth. Adjust the secondary core (nearest chassis) so that a positive or negative reading is obtained. Adjust the primary so that this reading shows a maximum. Then adjust the secondary for zero reading. This adjustment may also be done by using an off-air signal.

## VISION I.F. ALIGNMENT

The following equipment is necessary:

- (i) A sweep generator, covering the range 28 to 40 MHz.
- (ii) A marker generator, covering the same range.
- (iii) A C.R.O.

These instruments should be interconnected as described in the instructions supplied with the sweep generator. This generator should be terminated with a resistor equal to the output impedance, and connected to the receiver as shown in Fig. 2.

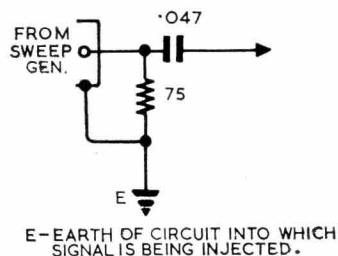


Fig. 2.

Because of the high gain of the receivers, care should be taken to ensure that all components replaced are on short leads and placed in exactly the same position as the original part.

Care must also be taken to avoid feedback in interconnecting leads of the alignment equipment.

NOTE (1): Throughout the alignment, the display should be adjusted so that the response is accurately set between the reference level and the base line, from a signal of about 2 volts peak-to-peak. The output of the IF strip should be maintained at that level by varying the output from the sweep generator and not the gain of the display unit.

NOTE (2): Coupling between stages will not require adjusting, unless either IFT1 or IFT2 has been replaced.

NOTE (3): Cores in L21, L22, L24, L27, IFT1 and IFT2 are set in the position furthest from the chassis.

Cores in L20, L23 and L26 are set in the position nearest the chassis

### OPERATION 1.

- (a) Connect a bias supply of 9 volts across the IF AGC smoothing capacitor C55.
- (b) Connect the display unit across C43.
- (c) Remove cores from L21, L24 and L27.

### OPERATION 2.

- (a) Using the termination network as shown in Fig. 2, connect sweep output between pin 3 of V4 and earth.

- (b) Adjust the cores of L26 and IFT2 to obtain the response of Fig. 3, Stage 1.
- (c) If IFT2 has been replaced, it will be necessary to adjust the coupling, by closing the spacing of the two windings of IFT2, until the desired bandwidth is achieved.
- (d) If a dip appears in the response, remove it by adjusting the core of L23

#### OPERATION 3.

- (a) Remove the sweep from V4 and connect between pin 3 of V3, and earth.
- (b) Adjust the cores of L23 and IFT1 to obtain the response of Fig. 3, Stage 2.
- (c) If a dip appears in the response, remove it by adjusting the tuner IF core.
- (d) If IFT1 has been replaced, it will be necessary to adjust the coupling, by closing the spacing of the two windings of IFT2, until the desired bandwidth is achieved.

#### OPERATION 4.

- (a) Remove the sweep from V3 and connect it to the IF test point on tuner, located adjacent to V2. Switch tuner to the position between Channel 11 and 0.
- (b) Adjust the core in L11 (IF output coil,

adjacent to V2) and L20, to obtain the response of Fig. 3, Stage 3.

#### OPERATION 5.

- (a) Insert a core in L24 and adjust to a minimum at 38.375 MHz. If necessary, adjust the spacing between L23 and L24, to ensure that the response at 38.375 MHz is at least 50 dB below peak response. To measure this, increase the sweep generator output by 30 dB. Re-set the base line with the vertical shift control if necessary, and the 20 dB will represent the 50 dB point required below the reference level.
- (b) Adjust the core in L22 to read a minimum at 29.875 MHz.
- (c) Insert a core in L27 and adjust until a small plateau appears in the response at 32.8 MHz.
- (d) Insert a core in L21 and adjust the tuning and, if necessary, the spacing between L21 and L20, so that the response at 31.375 MHz is 22 dB below peak response, Fig. 3, Stage 4.
- (e) Remove the bias supply and check that the response curve remains substantially unchanged.
- (f) Seal the coils of L21, L24 and L27 with

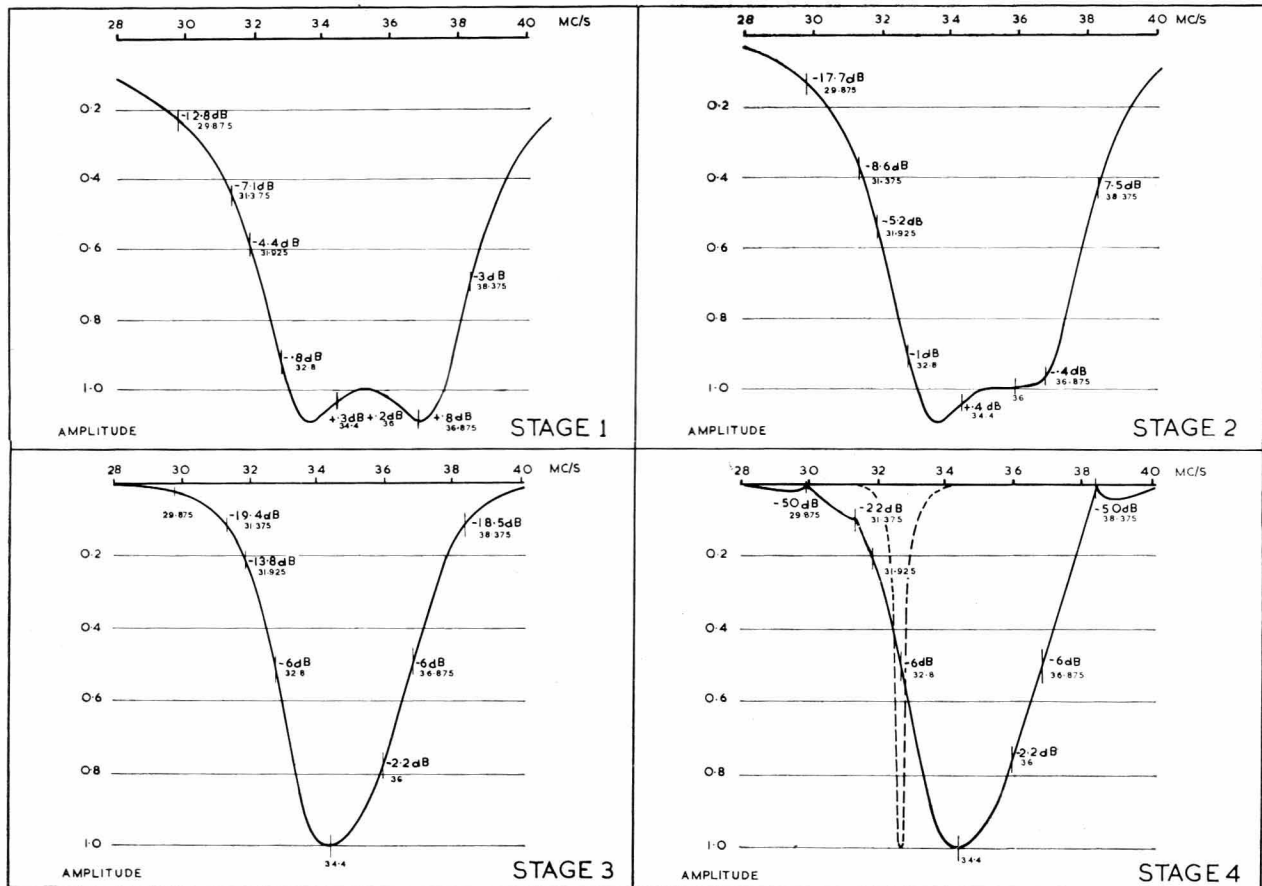


Fig. 3  
I.F. ALIGNMENT CURVES



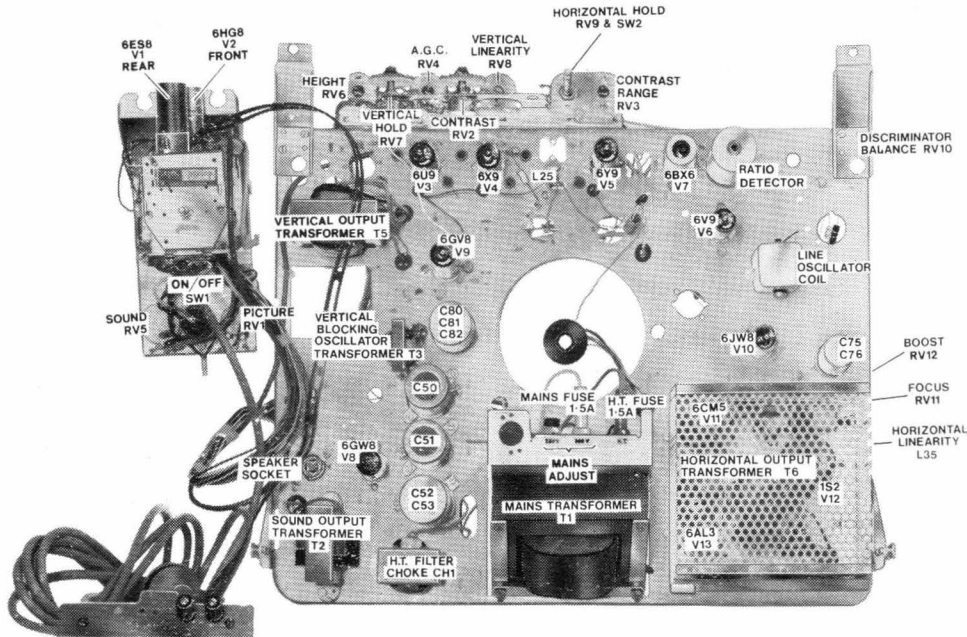
a light application of cellulose adhesive.

NOTE: The noise detector response as shown dotted in Fig. 3, Stage 4, automatically should be correct. However, if it is desired to check it, the following procedure should be adopted:

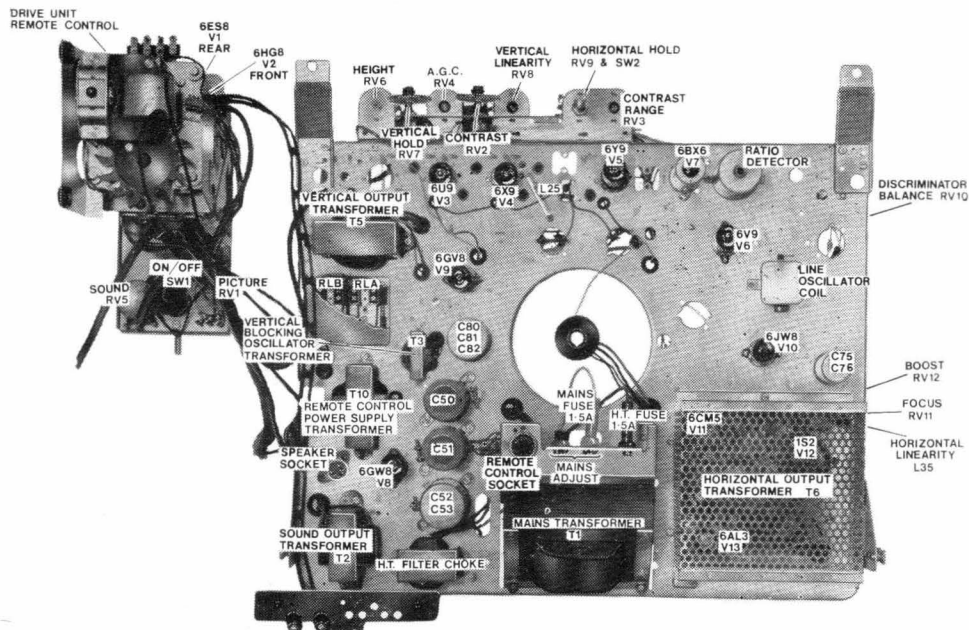
Leave the sweep connected as in Operation

4. Disconnect the display from across C43 and connect it between the junction of R61 and C57, and earth. Remove V5 and V6 from their sockets. The response as shown dotted in Fig. 3, Stage 4, should be obtained.

If the level is not the same as the IF response curve, the coupling between L26 and L27 should be adjusted until this is obtained.



BACK VIEW — V6 CHASSIS



BACK VIEW — V7 CHASSIS

## PARTS LIST — V6 AND V7 CHASSIS

Parts are common to both chassis except where indicated.

† Used on V6 Chassis only.

\* Used on V7 Chassis only.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
<b>RESISTORS</b>			<b>RESISTORS (continued)</b>		
R20	740-0032	2.2K $\pm$ 10% $\frac{1}{2}$ W	R69	740-0612	10K $\pm$ 20% $\frac{1}{2}$ W
R21	750-0932	2.2K $\pm$ 10% 4W	*R70	749-0052	47K $\pm$ 20% 2W
R22	750-0662	3.9K $\pm$ 10% 4W	†R70a	742-0372	22K $\pm$ 20% 1W
R23	742-1142	2.7K $\pm$ 20% 1W	*R71	740-0742	2.2K $\pm$ 20% $\frac{1}{2}$ W
R24	740-0983	22 ohms $\pm$ 10% $\frac{1}{2}$ W	R72	740-0112	27K $\pm$ 10% $\frac{1}{2}$ W
		Morganite	R73	740-0112	27K $\pm$ 10% $\frac{1}{2}$ W
R25	740-0653	100 ohms $\pm$ 10% $\frac{1}{2}$ W	R74	740-0122	47K $\pm$ 10% $\frac{1}{2}$ W
		Morganite	R75	740-0612	10K $\pm$ 20% $\frac{1}{2}$ W
R26	742-0712	2.2K $\pm$ 20% 1W	R76	740-0612	10K $\pm$ 20% $\frac{1}{2}$ W
R27	740-0592	22K $\pm$ 20% $\frac{1}{2}$ W	R77	740-0702	56K $\pm$ 10% $\frac{1}{2}$ W
R28	740-0412	820 ohms $\pm$ 10% $\frac{1}{2}$ W	R78	742-0452	220K $\pm$ 20% 1W
R29	740-0442	120 ohms $\pm$ 10% $\frac{1}{2}$ W	R79	740-0252	1.5K $\pm$ 10% $\frac{1}{2}$ W
R30	740-0822	33K $\pm$ 20% $\frac{1}{2}$ W	R80	740-0292	270 ohms $\pm$ 10% $\frac{1}{2}$ W
R31	740-0792	8.2K $\pm$ 10% $\frac{1}{2}$ W	R81	740-0512	100K $\pm$ 20% $\frac{1}{2}$ W
R32	750-0362	2.7K $\pm$ 10% 4W	R82	740-0512	100K $\pm$ 20% $\frac{1}{2}$ W
R33	742-1012	3.3K $\pm$ 20% 1W	R83	742-0802	4.7K $\pm$ 20% 1W
R34	740-0532	1M $\pm$ 20% $\frac{1}{2}$ W	R84	740-0442	120 ohms $\pm$ 10% $\frac{1}{2}$ W
R35	740-0862	18K $\pm$ 10% $\frac{1}{2}$ W	R85	740-0062	3.9K $\pm$ 10% $\frac{1}{2}$ W
R36	740-0042	2.7K $\pm$ 10% $\frac{1}{2}$ W	R86	750-0662	3.9K $\pm$ 10% 4W
R37	740-0572	1K $\pm$ 20% $\frac{1}{2}$ W	R87	742-0342	330K $\pm$ 20% 1W
R38	Part of		R88	742-1092	3.3M $\pm$ 20% 1W
	259-1262	2.7K $\pm$ 10% 1W. Former for	R89	742-0142	270K $\pm$ 10% 1W
		Equalising Coil	R90	742-1122	750K $\pm$ 5% 1W
R39	750-0702	2.7K $\pm$ 5% 7W	R91	740-1422	4.7K $\pm$ 20% $\frac{1}{2}$ W
R40	740-0922	330 ohms $\pm$ 10% $\frac{1}{2}$ W	R92	742-0823	270 ohms $\pm$ 10% 1W
R41	740-0582	47K $\pm$ 20% $\frac{1}{2}$ W	R93	742-0592	2.2M $\pm$ 20% 1W
R42	740-0773	39 ohms $\pm$ 10% $\frac{1}{2}$ W	R94	740-0202	2.2M $\pm$ 10% $\frac{1}{2}$ W
*R43	742-0642	180K $\pm$ 10% 1W	R95	740-0582	47K $\pm$ 20% $\frac{1}{2}$ W
†R43a	740-0362	390K $\pm$ 10% $\frac{1}{2}$ W	R96	740-0232	39K $\pm$ 10% $\frac{1}{2}$ W
R44	740-0622	470K $\pm$ 20% $\frac{1}{2}$ W	R97	740-0032	2.2K $\pm$ 10% $\frac{1}{2}$ W
R45	740-0272	150 ohms $\pm$ 10% $\frac{1}{2}$ W BTS	R98	740-0822	33K $\pm$ 20% $\frac{1}{2}$ W
R46	740-0272	150 ohms $\pm$ 10% $\frac{1}{2}$ W BTS	R99	740-0822	33K $\pm$ 20% $\frac{1}{2}$ W
R47	750-0682	300 ohms $\pm$ 10% 5W	R100	742-0002	1K $\pm$ 10% 1W
R48	740-0722	1.5M $\pm$ 10% $\frac{1}{2}$ W	R101	742-0002	1K $\pm$ 10% 1W
R49	740-0532	1M $\pm$ 20% $\frac{1}{2}$ W	R102	740-1243	6.8 ohms $\pm$ 10% $\frac{1}{2}$ W
R50	740-0212	3.3M $\pm$ 10% $\frac{1}{2}$ W	R103	740-1243	6.8 ohms $\pm$ 10% $\frac{1}{2}$ W
R50a	742-0892	2.2M $\pm$ 10% 1W	R104	740-0132	82K $\pm$ 10% $\frac{1}{2}$ W
R51	742-0192	1M $\pm$ 10% 1W	R105	742-0352	1M $\pm$ 20% 1W
R52	742-0732	1.8M $\pm$ 10% 1W	R106	742-0402	150K $\pm$ 20% 1W
R53	740-0702	56K $\pm$ 10% $\frac{1}{2}$ W	R107	740-0322	1.2K $\pm$ 10% $\frac{1}{2}$ W
*R54	740-0142	100K $\pm$ 10% $\frac{1}{2}$ W	R108	742-0492	68K $\pm$ 10% 1W
*R55	740-0872	120K $\pm$ 10% $\frac{1}{2}$ W	R109	740-0732	12K $\pm$ 10% $\frac{1}{2}$ W
*R56	740-0122	47K $\pm$ 10% $\frac{1}{2}$ W	R110	740-0752	68K $\pm$ 10% $\frac{1}{2}$ W
*R57	740-0232	39K $\pm$ 10% $\frac{1}{2}$ W	R111	740-0102	22K $\pm$ 10% $\frac{1}{2}$ W
*R58	742-0192	1M $\pm$ 10% 1W	R112	740-0592	22K $\pm$ 20% $\frac{1}{2}$ W
R59	742-0062	27K $\pm$ 10% 1W	R113	740-0412	820 ohms $\pm$ 10% $\frac{1}{2}$ W
R60	740-0773	39 ohms $\pm$ 10% $\frac{1}{2}$ W	R114	740-0822	33K $\pm$ 20% $\frac{1}{2}$ W
R61	742-0592	2.2M $\pm$ 20% 1W	R115	740-0852	560K $\pm$ 10% $\frac{1}{2}$ W
R62	742-0392	47K $\pm$ 20% 1W	R116	740-0852	560K $\pm$ 10% $\frac{1}{2}$ W
R63	740-0812	3.3K $\pm$ 20% $\frac{1}{2}$ W	R117	742-0052	22K $\pm$ 10% 1W
R64	742-0352	1M $\pm$ 20% 1W	R118	742-0052	22K $\pm$ 10% 1W
R65	742-0332	15K $\pm$ 20% 1W	R119	740-0382	6.8K $\pm$ 10% $\frac{1}{2}$ W
R66	740-0512	100K $\pm$ 20% $\frac{1}{2}$ W	R120	740-0102	22K $\pm$ 10% $\frac{1}{2}$ W
R67	742-0372	22K $\pm$ 20% 1W	R121	742-0062	27K $\pm$ 10% 1W
R68	740-0822	33K $\pm$ 20% $\frac{1}{2}$ W	R122	740-0062	3.9K $\pm$ 10% $\frac{1}{2}$ W

## PARTS LIST — V6 AND V7 CHASSIS

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† Used on V6 Chassis only.

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REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
<b>RESISTORS (continued)</b>			<b>CAPACITORS (continued)</b>		
R123	742-0172	470K $\pm$ 10% 1W	C45	271-0311	27pF $\pm$ 5% NPO Tube 'A'
R124	740-0242	33K $\pm$ 10% $\frac{1}{2}$ W	C46	283-1741	0.1uF $\pm$ 10% 400V Polyester
R125	740-0242	33K $\pm$ 10% $\frac{1}{2}$ W	*C47	283-1361	1uF $\pm$ 10% 160V Polyester
R126	750-0362	2.7K $\pm$ 10% PW5	†C47a	269-0941	8uF 100VW Electro
R127	740-0572	1K $\pm$ 20% $\frac{1}{2}$ W	*C48	271-0911	.003uF GMV 500V CTR
R128	742-0352	1M $\pm$ 20% 1W	C49	283-1701	.047uF $\pm$ 10% 400V Polyester
R129	742-0352	1M $\pm$ 20% 1W	C50	269-0521	100uF 150VW Electro
R130	742-0562	470K $\pm$ 20% 1W	C51	269-0521	100uF 150VW Electro
R131	742-0562	470K $\pm$ 20% 1W	C52	269-0901	{ 200uF 275V Electro
R132	742-0562	470K $\pm$ 20% 1W	C53		{ 60uF 275V Electro
R133	742-0402	150K $\pm$ 20% 1W	C54	279-0561	.5uF $\pm$ 25% 200V Hunts
R134	742-0102	82K $\pm$ 10% 1W	C55	283-1121	.01uF $\pm$ 10% 160V Polyester
R135	742-0102	82K $\pm$ 10% 1W	C56	283-1121	.01uF $\pm$ 10% 160V Polyester
R136	742-1092	3.3M $\pm$ 20% 1W	C57	283-1621	.01uF $\pm$ 10% 400V Polyester
*R137	742-0402	150K $\pm$ 20% 1W	C58	280-1791	220pF $\pm$ 10% 600V Styroseal
R138	750-0602	22 ohms $\pm$ 10% PW5	C59	271-0571	22pF $\pm$ 10% NPO Tube
R139	740-1043	27 ohms $\pm$ 10% $\frac{1}{2}$ W	C60	271-0941	8.2pF $\pm$ $\frac{1}{2}$ pF Disc NPO
R140	740-0502	15K $\pm$ 20% $\frac{1}{2}$ W	C61	271-0591	.0027uF $\pm$ 20% Disc K2000
R141	961-0921	0.5 ohms Resistance Wire	*C62	271-0911	.003uF GMV 500V CTR
R142	to R151	Not used	C63	270-0601	10pF $\pm$ 5% Ceramic
*R152	740-0653	100 ohms $\pm$ 10% $\frac{1}{2}$ W	C64	271-0771	100pF $\pm$ 5% NPO Disc
*R153	740-0092	15K $\pm$ 10% $\frac{1}{2}$ W	C65	280-1501	100pF $\pm$ 5% 600V Styroseal
*R154	740-0262	560 ohms $\pm$ 10% $\frac{1}{2}$ W	C66	280-1501	100pF $\pm$ 5% 600V Styroseal
*R155	740-0612	10K $\pm$ 20% $\frac{1}{2}$ W	C67	269-0781	4uF 25V Electro
*R156	742-0112	100K $\pm$ 10% 1W	C68	283-5581	.0047uF $\pm$ 10% 50V Polyester
*R160	749-0362	150 ohms $\pm$ 10% 2W	C69	283-1501	.001uF $\pm$ 10% 400V Polyester
<b>CAPACITORS</b>			C70	283-5621	.01uF $\pm$ 10% 50V Polyester
C20	271-1721	39pF $\pm$ 5% N330 Disc	C71	269-1171	25uF 6.4VW Electro
C21	273-0591	68pF $\pm$ 2 $\frac{1}{2}$ % Simplex Type MS	C72	283-1701	.047uF $\pm$ 10% 50V Polyester
C22	271-0911	.003uF GMV 500V CTR	C73	271-1061	15pF $\pm$ 10% Tube N330
C23	271-0911	.003uF GMV 500V CTR	C74	269-1331	50uF 10VW Electro
C24	271-0911	.003uF GMV 500V CTR	C75	269-1161	{ 8uF 250VW Electro
C25	271-0911	.003uF GMV 500V CTR	C75		{ 16uF 250VW Electro
C26	271-0621	.001uF Lead 'Thru' CAC 107	C77	271-0911	.003uF 500V Tube
C27	271-0351	33pF $\pm$ 5% NPO Tube	C78	269-1261	2uF 350VW Electro
C28	271-0281	.022uF GMV 100V Disc	C79	283-1721	.068uF $\pm$ 10% 400V Polyester
C29	271-0731	.047uF $\pm$ 80% —20% 25V Redcap	C80	269-0981	{ 50uF 300V Electro
C30	273-0591	68pF $\pm$ 2 $\frac{1}{2}$ % Simplex Type MS	C81		{ 24uF 300V Electro
C31	271-0591	.0027uF $\pm$ 20% Disc K2000	C82		{ 100uF 25V Electro
C32	271-1221	82pF Lead 'Thru' CAC 106	C83	283-1721	.068uF $\pm$ 10% 400V Polyester
C33	271-1271	.001uF $\pm$ 20% Disc	C84	283-1701	.047uF $\pm$ 10% 400V Polyester
C34	269-1041	10uF 6V Electro	C85	283-1261	.15uF $\pm$ 10% 160V Polyester
C35	271-0911	.003uF GMV 500V CTR	C86	271-1271	.001uF $\pm$ 20% Disc
C36	273-0591	68pF $\pm$ 2 $\frac{1}{2}$ % Simplex Type MS	C87	271-1271	.001uF $\pm$ 20% Disc
C37	271-0281	.022uF GMV 100V Disc	C88	271-1271	.001uF $\pm$ 20% Disc
C38	271-0591	.0027uF $\pm$ 20% Disc K2000	C89	283-1581	.0047uF $\pm$ 10% 400V Polyester
C39	283-1661	.022uF $\pm$ 10% 400V Polyester	C90	283-1661	.022uF $\pm$ 10% 400V Polyester
C40	271-0941	8.2pF $\pm$ $\frac{1}{2}$ pF Disc NPO	C91	271-1371	22pF $\pm$ 20% N330 Disc
C41	271-0941	8.2pF $\pm$ $\frac{1}{2}$ pF Disc NPO	C92	280-2041	220pF $\pm$ 20% 600V Styroseal
C42	271-0621	.001uF Lead 'Thru' CAC 107	C93	283-1361	1uF $\pm$ 10% 160V Polyester
C43	271-1061	15pF $\pm$ 10% Tube N330	C94	283-1141	.015uF $\pm$ 10% 160V Polyester
C44	271-0221	2.2uF $\pm$ $\frac{1}{2}$ pF NPO Bead	C95	283-1201	.047uF $\pm$ 10% 160V Polyester
			C96	280-3241	330pF $\pm$ 20% 125V Styroseal



## PARTS LIST — V6 AND V7 CHASSIS

Parts are common to both chassis except where indicated.

† Used on V6 Chassis only.

\* Used on V7 Chassis only.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
<b>CAPACITORS (continued)</b>			<b>POTENTIOMETERS (continued)</b>		
C97	283-5741	.1uF ± 10% 50V Polyester	*RV14	677-0971	1.5K Curve 'F'—Hearing-Aid Sound
C98	280-3351	47pF ± 20% 600V Styroseal	*RV15	677-1011	250K Curve 'G'—Remote control Contrast
C99	283-5601	.0068uF ± 10% 50V Polyester	*RV16	677-1191	250K Curve 'F'—Remote control sound
C100	283-5601	.0068uF ± 10% 50V Polyester	<b>VALVES AND TRANSISTORS</b>		
C101	280-3351	47pF ± 20% 630V Styroseal	V1	932-1161	6ES8—RF Amplifier
C102	271-0571	22pF ± 10% NPO Tube	V2	932-1921	6HG8—Frequency Changer
C103	280-1101	.0068uF ± 10% 400V Styroseal	V3	932-2331	6U9—1st IF Amplifier and Blanking Clamp
C104	280-1091	.0056uF ± 10% 400V Styroseal	V4	932-2341	6X9—2nd IF Amplifier and Noise Detector
C105	271-1241	820pF ± 20% K2000 Tube	V5	932-2351	6Y9—Video Amplifier and A.G.C.
C106	283-1501	.001uF ± 10% 400V Polyester	V6	932-2411	6V9—Sync Separator
C107	283-1581	.0047uF ± 10% 400V Polyester	V7	932-0521	6BX6—Limiter
C108	279-0561	.5uF ± 25% 200V Hunts	V8	932-1771	6GW8—Audio Driver and Output
C109	271-0911	.003uF GMV 500V Tube	V9	932-2001	6GV8—Vertical Blocking Oscillator and Output
C110	284-0661	.022uF ± 20% 600V Dipol	V10	932-2371	6JW8—Reactance Valve and Horizontal Oscillator
C111	271-0991	220pF 2KV Tube	V11	932-0531	6CM5—Horizontal Output
C112	284-1281	.22uF ± 20% 1000V Dipol	V12	932-0771	1S2—EHT Rectifier
C113	284-2701	.047uF ± 10% 1000 Dipol	V13	932-1151	6AL3—Damper Diode
C114	284-2701	.047uF ± 10% 1000 Dipol		932-2651	AX1104
C115		68pF 3KV Tube (Ex MSP)	<b>DIODES</b>		
C116	271-0911	.003uF GMV 500V Tube	MR1	932-0971	OA90—Video Detector
C117	271-0911	.003uF GMV 500V Tube	MR2	932-1071	OA210—HT Rectifier
C118	271-0911	.003uF GMV 500V Tube	MR3	932-1071	OA210—HT Rectifier
C119	283-1701	.047uF ± 10% 400V Polyester	MR4	932-2451	BA100—AGC Clamp
C120	283-1771	.18uF ± 10% 400V Polyester	MR5 }	932-2081	{ AA119—Ratio Detector
C121	271-1251	18pF ± 20% 3KV Disc	MR6 }		{ (Matched Pair)
C122 to C137		Not used	MR7	932-2451	BA100—Vertical Sync Diode
*C138	271-0781	.035uF 2KV Disc	MR8	Not used	
*C139	271-0781	.035uF 2KV Disc	MR9	932-2691	AB1122—Phase Discriminator
*C140	269-1091	10uF 50VW Electro	MR10	932-2961	AB1122—Phase Discriminator
*C141	269-1091	10uF 50VW Electro	MR11 to MR14		Not used
*C142	269-1091	10uF 50VW Electro	*MR15	932-2191	OA610—Rectifier (Remote Control)
<b>POTENTIOMETERS</b>			*MR16	932-2191	OA610—Rectifier (Remote Control)
RV1	677-1731	500K ohms Curve 'A'—Picture	*MR17	932-2031	OA91—Protection Diode
RV2	677-1741	50K ohms Curve 'A'—Contrast	<b>COILS</b>		
RV3	677-0172	25K ohms Curve 'A'—Contrast Range	L20 }	259-1461	{ Coil—IF Input
RV4	677-0912	1M ohm Curve 'A'—AGC	L21 }		{ 31.375 MHz Trap
RV5	677-1721	1M TAP 500K Curve 'A'—Sound	L22	259-1491	29.875 MHz Trap
RV6	677-0341	250K ohms Curve 'A'—Height	L23 }		{ Coil—1st IF Anode
RV7	677-1103	500K ohms Curve 'A'—Vertical Hold	L24 }	259-1471	{ 38.375 MHz Trap
RV8	677-0511	10K ohms Curve 'A'—Vertical Linearity	L25	259-1432	Coil—Filter Choke
RV9	677-1651	100K Curve 'A'—Horizontal Hold	L26 }		{ Coil—2nd IF Anode
RV10	677-1122	15K Curve 'A'—Discriminator Balance	L27 }	259-1481	{ 32.8 MHz Trap
RV11	677-0891	2M Curve 'A' Strip—Focus			
RV12	677-0911	1M Curve 'A'—Boost			
RV13	Not used				

## PARTS LIST — V6 AND V7 CHASSIS

Parts are common to both chassis except where indicated.

† Used on V6 Chassis only.

\* Used on V7 Chassis only.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
<b>COILS (continued)</b>			<b>MISCELLANEOUS (continued)</b>		
L28		Not used	Yoke	259-1581	MSP Coil Deflector 43663A
L29	259-0956	Coil—Grid Peaking Choke	CRT	932-2642	25TP4 Kimcode
L30 } L31 }	259-1262	Coil—Equalising		794-1581	Scale Indicator
L32	908-0802	Coil—Video Peaking		526-4463	Mains Lead
L33	259-1543	Coil—Horizontal Oscillator	*RLA	735-0041	Relay—300 ohms coil, 4-pole, normally open
L34 } L34a }	259-0045	{ Coil—Anti Parasitic Coil—Anti Parasitic	*RLB	735-0051	Relay—600 ohms coil, 4-pole normally open
L35	259-1252	Coil—Linearity	*MSA-1 } *MSA-2 } *MSA-3 }	855-0651	{ On-Off Control/Speaker Control/ Contrast Control. Leaf Switch operated by rem. control plug.
<b>TRANSFORMERS</b>			*MSB	855-0481	Switch, Muting (Cam operated)
T1	904-0451	Transformer—Power	*SB	855-0531	Switch—Wafer, 1-pole, 14 positions
T2	905-0621	Transformer—Sound Output	*SC	855-0441	Switch—Local/Remote Speaker
T3	908-0781	Transformer—Blocking Oscillator	*SD	855-0441	Switch—On/Off
T4	908-0743	Transformer—Vertical Feedback	*SE	855-0451	Switch—Channel Selector
T5	905-0602	Transformer—Vertical Output	*	577-0152	Motor 240V
T6	908-0771	Transformer—Horizontal Output	*	577-0162	Motor—plus Driving Dog
T7 to T9		Not used	*	306-0111	Coupling—Driving Dog
*T10	904-0551	Transformer—Power (Remote Control)	*	306-0101	Coupling—Driven Dog
*T11	908-0571	Transformer—Indexing	*	837-0531	Spindle—Driven Dog and Pinion Mounting
*T12	908-0571	Transformer—Indexing	*	447-0051	Pinion
IFT1	906-0591	IF Transformer—Vision	*	664-1732	Rear Bearing Plate Assembly— plate with bearings, driven dog, pinion and spindle
IFT2	906-0711	IF Transformer—Vision			
IFT3	906-0721	IF Transformer—Sound and 5.5 MHz Trap	*	447-0061	Gear—Idler
IFT4	906-0324	Transformer—Ratio Detector	*	447-0071	Gear—Crank Driving
<b>MISCELLANEOUS</b>			*	654-0623	Crank with Pin
CH1	232-0351	HT Choke	*	263-0051	Collar—Crank Pin
VDR1	750-0711	Voltage Dependent Resistor— E299DC/P342	*	244-0811	Circlip—SCO 1916 Crank Pin Collar Retaining
VDR2	750-0691	Voltage Dependent Resistor— E298ED/A262—Violet Spot	*	954-0271	Geneva Wheel Assembly
VDR3	750-0571	Voltage Dependent Resistor— E298ZZ/06—Black end Blue Spot	*	244-0771	Circlip — SCO 1960/17/0 — Geneva Wheel Assembly Re- taining
VDR4	750-0761	Voltage Dependent Resistor— E299DE/P354			
FS1	431-0081	Fuse—1.5 amp. }	*	664-1801	Front Bearing Plate Assembly
FS2	431-0081	Fuse—1.5 amp. }	*	306-0131	Coupling Tuner—Driving
FS3		Fuse—Heater Line, B26SWG— Tinned Copper Wire	*	306-0121	Coupling Tuner—Driven
FS4	431-0081	Fuse—1.5 amp., HT Secondary	*	263-0061	Collar—Driven Tuner Coupling
	160-0152	Tuner—Mounting Bush	*SKT3	824-1201	Socket—Remote Control
Tuner	224-2031	Tuner—Philips NT3014	<b>REMOTE CONTROL HANDPIECE</b>		
or	224-2291	Tuner—Philips NT3016	*	190-2492	Cabinet—Front
SW1	855-0821	DP Rotary On/Off Switch— Mains	*	190-2502	Cabinet—Back
Lamp	932-1941	6.3V 0.25A Bayonet Cap Lamp	*	244-0491	Circlip—ASCO/8169/17/0
	824-0961	Lamp Socket	*	814-0961	Captive 4BA Screw held by 244-0471
	517-2081	Knob—Rear Pre-sets	*	794-1301	Scale—Channel Indicator
			*	664-1701	Plate—Scale Backing
			*	372-0181	Disc—Channel Indicator
			*	517-1632	Knob—Pre-selector
			*	840-0732	Spring—Pre-selector Knob

## PARTS LIST — V6 AND V7 CHASSIS

Parts are common to both chassis except where indicated.

† Used on V6 Chassis only.

\* Used on V7 Chassis only.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
<b>REMOTE CONTROL HANDPIECE (cont.)</b>			<b>MODELS V6-AM, V7-AM (continued)</b>		
*	517-1642	Knob—Channel Selector		403-3651	Escutcheon—Channel Indicator
*	517-1891	Knob		517-2551	Knob—Channel Selector
*	794-1261	Scale—Hearing-Aid Volume		517-2332	Knob—Fine Tuning
*	794-1271	Scale—Picture		517-2891	Knob—Front Controls
*	794-1281	Scale—Sound	*	518-5491	Remote Control Handpiece (complete)
*	453-1291	Speaker Grille		561-1991	Medallion—"Windsor"
*	661-0221	Grille—Backing Strip		561-1981	Medallion—Inlay
*	831-1391	Speaker—2" MSP, type 2HB, 15 ohms, with lead and plug		561-1431	Medallion—Trade Mark
*	852-0223	Handset Support	*	561-1052	Medallion—"Automatic"
*	770-0361	Anti-skid Rubber Balls		831-2711	Speaker—15 ohms, VC1, 8"
*	961-0761	9-Core Beige Cable	<b>CABINET DIMENSIONS — V6-AM, V7-AM</b>		
*	826-0002	Sleeve		Height	30"
*	668-0581	Plug, 9-pin, XLM9/UTP1		Depth	17"
*	294-0971	Cover, 9-Pin Plug, 10B		Width	30 $\frac{1}{4}$ "
*PLP	932-1791	Lamp, 12V, 2W, Philips 12829		Weight—V6-AM:	
<b>SPARE PARTS — MODEL V6-9D</b>			†	Gross	139 lbs.
	192-3481	Cabinet—Maple	†	Nett	121 lbs.
	192-3491	Cabinet—Walnut		Weight—V7-AM:	
	192-3501	Cabinet—Teak	*	Gross	144 lbs.
	539-0241	Leg—10" Maple	*	Nett	126 lbs.
	539-0251	Leg—10" Walnut	<b>MODELS V6-BJ, V7-BJ</b>		
	539-0261	Leg—10" Teak		192-3401	Cabinet—Maple
	403-3641	Escutcheon—Mask		192-3411	Cabinet—Rosewood
	403-3621	Escutcheon—Control		192-3421	Cabinet—Teak
	403-3631	Escutcheon—Sound Outlet		192-3431	Cabinet—Walnut
	403-3651	Escutcheon—Channel Indicator		403-3641	Escutcheon—Mask
	517-2551	Knob—Channel Selector		403-3621	Escutcheon—Control
	517-2332	Knob—Fine Tuning		403-3631	Escutcheon—Sound Outlet
	517-2891	Knob—Front Controls		403-3651	Escutcheon—Channel Indicator
	561-2011	Medallion—"Oberon"		517-2551	Knob—Channel Selector
	561-1981	Medallion—Inlay		517-2332	Knob—Fine Tuning
	561-1431	Medallion—Trade Mark		517-2891	Knob—Front Controls
	831-1822	Speaker—15 ohms VC, 4 x 7	*	518-5491	Remote Control Handpiece (complete)
<b>CABINET DIMENSIONS — V6-9D</b>				561-1431	Medallion—Trade Mark
	Height	31" (including 10" legs)		561-1981	Medallion—Inlay
	Depth	29 $\frac{1}{2}$ "		561-2001	Medallion—"Warwick"
	Width	16"	*	561-2021	Medallion—"Automatic"
Weight:				831-2421	Speaker—30 ohms VC, 5"x7"
	Gross	100 lbs.	<b>CABINET DIMENSIONS — V6-BJ, V7-BJ</b>		
	Nett	82 lbs.		Height	30" (including 9" legs)
<b>MODELS V6-AM, V7-AM</b>				Depth	16 $\frac{3}{4}$ "
	192-3441	Cabinet—Maple		Width	39 $\frac{1}{2}$ "
	192-3451	Cabinet—Rosewood		Weight—V6-BJ:	
	192-3461	Cabinet—Walnut	†	Gross	120 $\frac{1}{2}$ lbs.
	192-3471	Cabinet—Teak	†	Nett	103 $\frac{1}{2}$ lbs.
	403-3641	Escutcheon—Mask		Weight—V7-BJ:	
	403-3621	Escutcheon—Control	*	Gross	125 $\frac{1}{2}$ lbs.
	403-3631	Escutcheon—Sound Outlets	*	Nett	108 $\frac{1}{2}$ lbs.

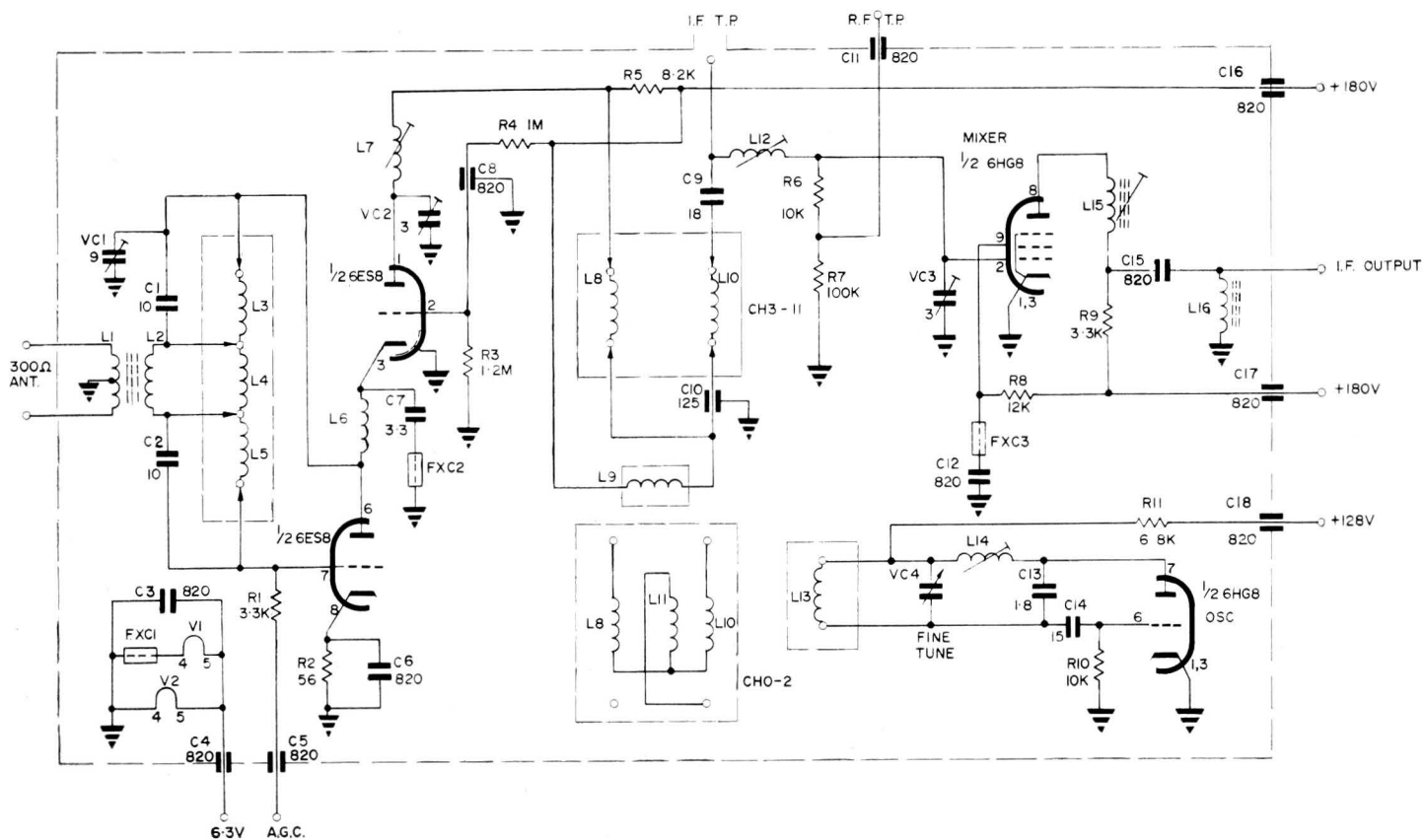
On early models tuner type NT3014 is used and the knob part numbers are listed in the above parts list. Later models use tuner type NT3016 and the different knob part numbers are as follows:

517-2981	Knob—Channel Indicator
517-2991	Knob Cover—Channel Indicator
517-3001	Knob—Fine Tuning

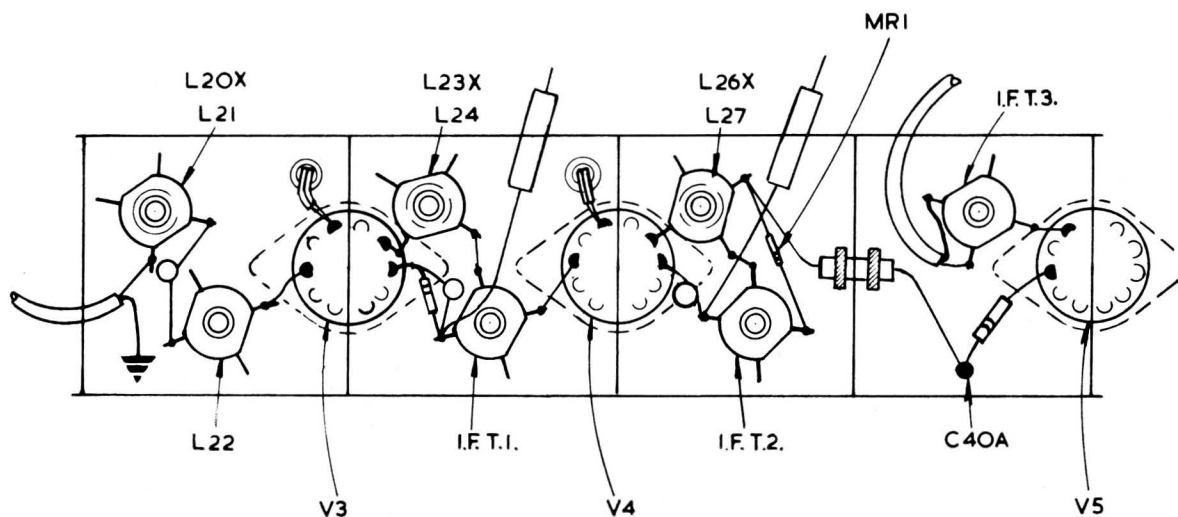
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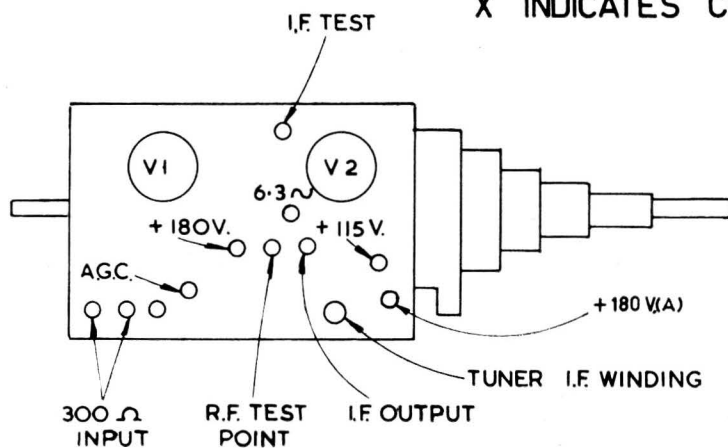


TUNER TYPE 3014 AND 3016



LOCATION OF COILS FROM UNDERSIDE OF CHASSIS.

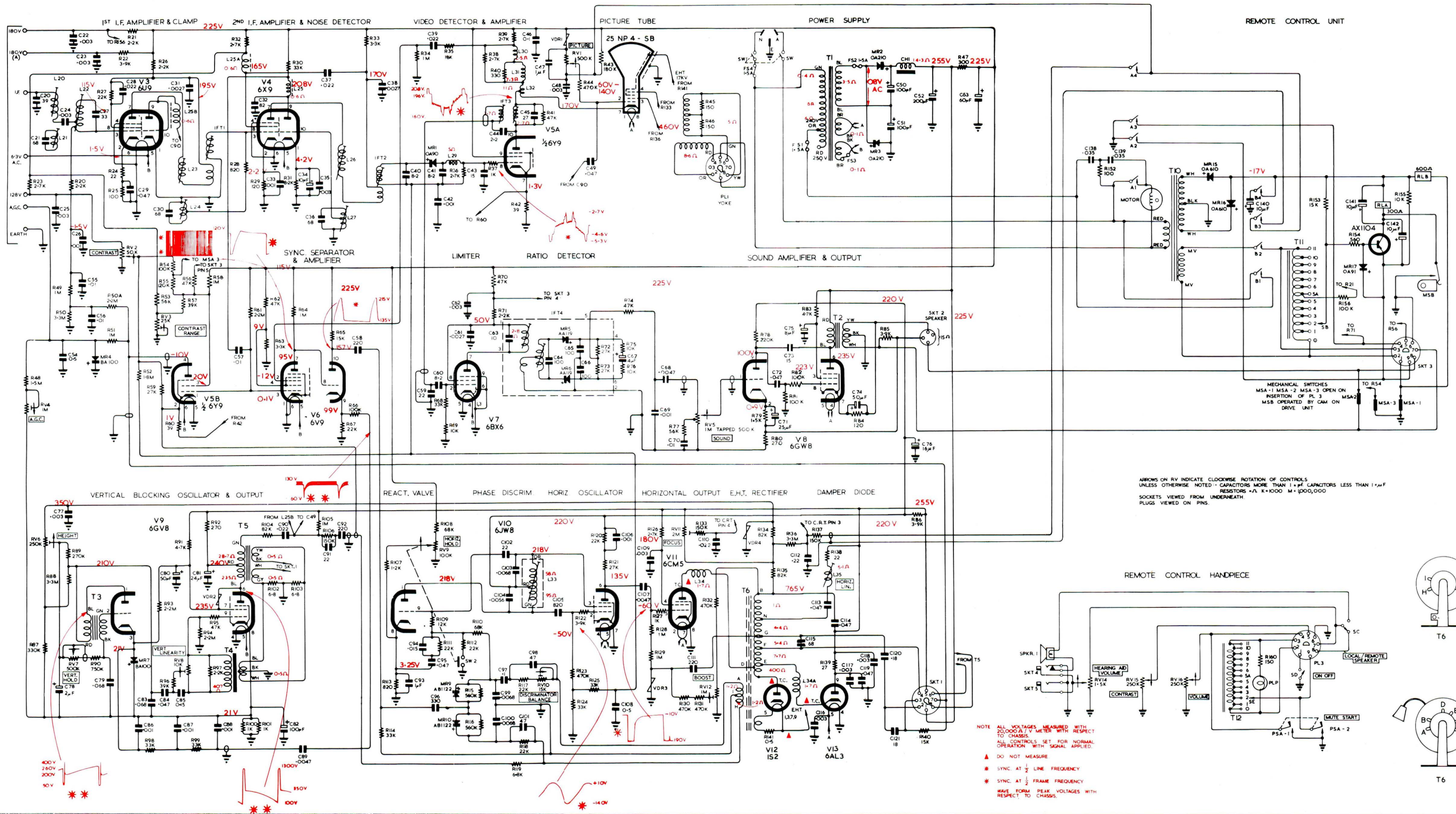
X INDICATES COIL NEAREST CHASSIS.











V7 CHASSIS — CIRCUIT DIAGRAM